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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,155	02/12/2004	Cheng-Kuang Lee	ACMP0076USA	2154

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EXAMINER

SEVER, ANDREW T

ART UNIT	PAPER NUMBER
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2851

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/708,155	LEE ET AL.	
	Examiner	Art Unit	
	Andrew T. Sever	2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-17 and 19-22 is/are pending in the application.
- 4a) Of the above claim(s) 7-12 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-6,13-17,19,21 and 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Claims 7-12 and 20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 2/22/2005.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3-6, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Satou (US 6,517,212.)

Satou teaches in figure 8 a light source comprising:

A prism (28, there are 5 identical prisms present, however each one can be treated as a single prism) having a plurality of optical planes for redirecting light; and

A plurality of beam generators (1 and 2) for generating light beams and projecting the light beams to the optical planes, wherein light beams from the beam generators enter the prism through one of the optical planes, and the other optical planes reflect the light beams for collecting the light beams to form an enhanced light beam (See column 6. Also see figure 8 wherein each prism

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comprises of at least 5 facets, the light from light source 1 enters facet 28b is reflected by the unlabeled facet and directed out of facet 28c, similarly the light from light source 2 enters through 28b and exits through 28c, the light beams from both light sources are combined in this way to make one enhanced beam. Note that the light sources are not in perfect alignment and therefore the beam exiting from the prism from each light source has a different intensities, enhancing the beam by their combination (there are less hot spots etc. Caused by diffraction in the light source) thus making an enhanced beam.)

With regards to applicant's claim 3:

See column 3 line 65 through column 4 line 4 which teaches that the prisms make use of total internal reflection.

With regards to applicant's claim 4:

Inherently any time light passes between a medium of one index of refraction to a medium of a different index it is refracted as is known from physics. Since in the case of the prisms of Satou the light enters the prism from air and therefore undergoes a first refraction, after total reflection to make it parallel with the optical axis it then leaves the prism, upon passing into the air it therefore is again refracted; a second refraction after the total reflection in the prism.

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With regards to applicant's claim 5:

The prisms shown in figure 8 have 2 incidence planes (one for each beam generators).

With regards to applicant's claim 6:

The prism have three optical planes the light enters through 28b is totally internally reflected between the first and the second optical planes (the plane of the triangles that is not labeled) and then leaves through a third plane 28c.

With regards to applicant's claim 15:

The beam generators each comprises of a light device for radiating light (2) and a light collector (4) for collecting the light radiated from the light device to form the beam.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 13, 14, and 16, 17, 19, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Satou as applied to claims 1, 3-6 and 15 above, and further in view of Butterworth et al. (US 6,005,722.)

Satou as described in more detail above teaches a light source including prisms for redirecting the light from a plurality of light generators. Satou further teaches in column 4 that figure 8 is part of a projection type display, however Satou's projector as shown in figure 4a does not include a light pipe or color

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wheel rather Satou utilizes an integrator made of fly-eye lenses and uses beam splitters to direct the light to multiple transmissive imagers. Butterworth teaches in column 1, that such imagers are more expensive and do not have as good of performance as reflective imagers. Butterworth teaches in column 2 that when utilizing reflective imagers, the use of a color wheel and a light pipe allows for a better image and also allows for the use of multiple light sources such as multiple LEDs. Butterworth teaches in figure 1 the makeup of such a projector (in the embodiment of figure 1 only 1 light source is provided, however as will be stated the light source will be replaced with that of Satou) which comprises the light source (12), a color wheel (14), a light pipe (36) and imager (18) and a projection lens (28) among other things. Given the superior performance of reflective imagers and the teaching by Butterworth of the need for the color wheel and light pipe when using such an imager; it would have been obvious to one of ordinary skill in the art at the time the invention was made to use Butterworth's imaging core (the above described parts) in the projector of Satou so that a better projected image can be obtained.

With regards to applicant's claims 14 and 17:

Color wheels work by turning.

With regards to applicant's claims 16 and 19:

See above and the 35 U.S.C. §102(b) rejection of claims 1, 3-6 and 15 based on Satou.

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With regards to applicant's claims 21 and 22:

Each of the prisms (28) either is or it would be obvious to make it a monolithic structure, assuming that by monolithic applicant means integral. Since even if it is made of two prism placed in contact with each other, it has been held that it is obvious to make integral that which is secured by other means. (See *In re Larson* 144 USPQ 347, 349 (CCPA 1965). (Applicant should note that the dictionary definition of monolithic is "imposing in size or bulk or solidity" for example "a monumental scale". The word monolithic does not necessary apply to claimed invention since no projector uses a prism that is monumental in scale. It appears that applicant is attempting to claim that the prism is a single integral piece, which is how the prior art is being applied.)

Response to Arguments

7. Applicant's arguments filed 6/03/2005 have been fully considered but they are not persuasive.

Applicant argues that Satou teaches that each of the prisms (28) of Satou comprises of two prisms wherein each of those two prisms only affects light from a single light source. This argument is not persuasive since Satou labeled both prism as a single prism (28), further as stated above even if they are separate prisms (which is not being conceded by the office) it is obvious to make them integral. Therefore the office is treating each unit labeled 28 as a single integral prism not as two. Since each unit (28) meets applicant's

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claims, the rejection has been repeated and made final. All of applicant's other arguments are based on the above argument, which has been found to be unpersuasive, and therefore the rejections have been repeated and made final.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Sever whose telephone number is 571-272-2128. The examiner can normally be reached on 9:30-6:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



AS

William Perkey
Primary Examiner